



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,437	03/20/2001	Dagnachew Birru	US010069	9839

24737 7590 04/25/2005

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

DEPPE, BETSY LEE

ART UNIT	PAPER NUMBER
----------	--------------

2637

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/812,437	BIRRU, DAGNACHEW	
	Examiner	Art Unit	
	Betsy L. Deppe	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 15, 16, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 12-14 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following must be shown or the feature(s) canceled from the claim(s): a second sub-multiplication circuit for receiving a number (see claim 1, line 11) wherein the number is an error signal resulting from a recursive decision feedback filter operation (see claim 11). Interpreting the second sub-multiplication circuit as corresponding to 56 and 66 (or 54 and 64) in Figure 3, neither (56 and 66) or (54 and 64) show the error signal as an input to the respective circuits. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it includes legal phraseology often used in patent claims (see "comprises" in line 2) and the sentence on lines 14-16 is unclear and grammatically awkward. Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities:
on page 8, line 6, "multiplexor" should be "multiplexer";
on page 10, line 14, "accumulator mechanism 60" should be "accumulator mechanism 80"; and

on page 10, line 17, the comma should be deleted;

Appropriate correction is required.

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the detailed description does not describe a second sub-multiplication circuit for receiving a number (see claim 1, line 11) wherein the number is an error signal resulting from a recursive decision feedback filter operation (see claim 11). Interpreting the second sub-multiplication circuit as corresponding to 56 and 66 (or 54 and 64), the specification does not describe the “number” as recited in the claims 1 and 11.

Claim Objections

6. The following claims are objected to because of the following informalities:

- a. in claim 1, line 4, “said device” should be “said **multiplier** device”;
- b. in claim 1, line 5, “a” should be inserted before “decoder”;
- c. in claim 1, lines 6, 8 and 12, the Examiner suggests changing “implementing” to “including” for clarity and improved readability.
- d. in claim 1, lines 9 and 12, “by +1/-1 or zero (0)” should be “by +1 or –1 and then, the result is multiplied by zero (0) or +1” in order to be consistent with Figure 3 and the corresponding description. Figure 3 does not show multiplying

filter coefficient g by zero. Instead, in accordance with the control signals, the filter coefficient is multiplied $+1$ or -1 and then the result is multiplied by $+1$ or 0 .

e. in claim 3, lines 2-3, "to effect a multiplication of one of said first or second intermediate result with a discrete digital value of four (4) or eight (8)" should be "to multiply one of said first or second intermediate result by four (4) or eight (8)";

f. in claim 3, line 3, "said control signals" should be "a third set of control signals" for clarification.

g. in claim 4, line 2, "each" should be inserted before "comprises" for clarification.

h. in claim 9, line 1, "a" should be inserted before "register";

i. in claim 10, line 1, "a" should be inserted before the second occurrence of "device";

j. in claim 12, line 1, "Method" should be "A method";

k. in claim 12, line 5, "implementing" should be "including";

l. in claim 12, line 7, " $+1/-1$ " should be " $+1$ or -1 " and "said control signals" should be "a first set of control signals" for clarification;

m. in claim 12, line 9, "a control signals" should be "a second set of control signals" for clarification;

n. in claim 14, line 3, "said control signals" should be "a third set of control signals" for clarification;

- o. in claim 18, lines 3, 5, 8 and 11, each of the recited limitations should be preceded by “a” or “an” as appropriate. For example, on line 3, “decoder device” should be “a decoder device”;
- p. in claim 18, line 13, the comma should be deleted;
- q. in claim 19, line 4, “comprising” should be “comprises”; and
- r. in claim 19, line 5, there should be a comma after each occurrence of “values” for clarification.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-11 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

10. With regard to claims 1-11, the detailed description does not describe a second sub-multiplication circuit for receiving a number (see claim 1, line 11) wherein the

number is an error signal resulting from a recursive decision feedback filter operation (see claim 11). It is unclear how the second sub-multiplication circuit processes the "number" as recited in claim 1 and how the error signal is processed as recited in claim 11. As dependent claims, claims 2-10 are rejected for the same reason as claim 1.

11. With regard to claim 16, it is unclear how steps b) and c) are performed simultaneously when step c) uses the first and second intermediate output results provided by step b).

12. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed does not describe a multiplier with an inverter in combination with the first and second sub-multiplication circuits. According the detailed description and Figure 3, the inverter recited in claim 5 is included in the first and second sub-multiplication circuits. It appears that "said multiplier device" in claim 5 should be "each of said first and second sub-multiplication circuits" in order to be consistent with the specification as originally filed.

13. Claims 15, 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2637

14. Claim 15 recites the limitation "said multiplication steps circuit" in line 1. There is insufficient antecedent basis for this limitation in the claim.

15. Claim 18 recites the limitation "said original plurality of discrete digital level values" in lines 12-13. There is insufficient antecedent basis for this limitation in the claim.

16. Claim 19 recites the limitation "said plurality of original discrete digital level values" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Allowable Subject Matter

17. Claims 12, 13, 14 and 17 are allowable if amended as suggested by the Examiner.

18. The following is a statement of reasons for the indication of allowable subject matter: prior art of record does not teach or suggests in combination a method for performing multiplication in a decision feedback equalizer wherein the method includes the steps of decoding an encoded, discrete digital level value and including logic for generating control signals according to said digital level value wherein the control signals are used as recited in step b).

Conclusion


19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-

Art Unit: 2637

3054. The examiner can normally be reached on Monday, Wednesday and Thursday (8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272 - 2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Betsy L. Deppe
Primary Examiner
Art Unit 2637